<u>REMARKS</u>

The present application was filed on April 6, 2000 with claims 1-91. In the outstanding Office Action dated April 10, 2003, the Examiner: (i) objected to claim 3; (ii) rejected claims 1 and 91 under 35 U.S.C. §112, first paragraph; (iii) rejected claims 3, 29, 35, 36, 43, 47, 73, 79 and 80 under 35 U.S.C. §112, second paragraph; (iv) rejected claims 1-29, 34, 36-73, 78, 80-87, 90 and 91 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,269,336 to Ladd et al. (hereinafter "Ladd"); (v) rejected claims 5, 31, 32, 49, 75 and 76 under 35 U.S.C. §103(a) as being unpatentable over Ladd; (vi) rejected claims 30 and 74 under 35 U.S.C. §103(a) as being patentable over Ladd in view of World Wide Web Consortium document entitled "Extensible Stylesheet Language (XSL) version 1.0" (hereinafter referred to as "W3C XSL specification"); (vii) rejected claims 33, 77, and 88 under 35 U.S.C. §103(a) as being unpatentable over Ladd in view of U.S. Patent No. 6,493,758 to McLain (hereinafter "McLain"); and (viii) rejected claims 35, 79, and 89 under 35 U.S.C. 103(a) as being unpatentable over Ladd in view of U.S. Patent No. 6,456,974 to Baker et al. (hereinafter "Baker").

In this response, Applicants: (i) amend claims 1, 3, 29, 35, 36, 47, 73, 79, 80 and 91; and (ii) traverse the various §102 and §103 rejections of claims 1-91 for at least the following reasons.

Regarding the objection to claim 3, rejection of claims 1 and 91 under 35 U.S.C. §112, first paragraph, and rejection of claims 3, 29, 35, 36, 47, 73, 79 and 80 under 35 U.S.C. §112, second paragraph, Applicants have amended said claims in a manner believed to overcome the various objections and rejections. Applicants believe that the rejection of claim 43 due to antecedent basis concerns with the phrase "the content/application logic connection code" is improper since the phrase "the content/application logic connection code" does not appear in claim 43. Accordingly, withdrawal of the various objections and rejections is respectfully solicited.

Regarding the §102(e) rejections of claims 1-29, 34, 36-73, 78, 80-87, 90 and 91, Applicants assert that Ladd fails to teach or suggest all of the limitations in said claims for at least the reasons presented below.

It is well-established law that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.

Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Appellants assert that the rejection based on Ladd does not meet this basic legal requirement, as will be explained below.

The present invention, for example, as recited in amended independent claim 1, recites a method of generating an application accessible by a user through one or more computer-based devices, comprising the following steps. Interactions that the user is permitted to have with the one or more computer-based devices used to access the application are represented by interaction-based programming components. The interaction-based programming components are <u>independent of content/application logic and presentation requirements</u> associated with the application. Further, the interaction-based programming components may be transcoded on a component by component basis to <u>generate one or more modality-specific renderings of the application</u> on the one or more computer-based devices. The application is then authored using at least a portion of the interaction-based programming components. Independent claim 91 recites similar limitations in an article of manufacture format. Independent claims 44 and 90 recite respective apparatus for accessing applications having similar limitations.

As explained in the present specification at page 6, line 26, through page 7, line 6, the invention defines a new application programming paradigm. As mentioned in the background section of the present specification, existing application authoring approaches have adopted the concept of separating the content based aspects of an application from the presentation based aspects. In accordance with the present invention, a new paradigm is introduced, illustratively embodied as a Conversational Markup Language (CML), which provides for separating application programming into content aspects, presentation aspects and interaction aspects. By focusing on the interaction aspect of an application with respect to a user, an application may be written in a manner which is independent of the content/application logic and presentation. The "interaction-based programming components" recited in independent claims 1, 44, 90 and 91 provide such advantages since, as expressly recited, they are <u>independent of content/application logic and presentation requirements</u> associated with the application and they may be transcoded on a component by component basis to <u>generate one or more modality-specific renderings of the application</u> on the one or more computer-

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based devices. Examples of such presentation requirements and modality-specific renderings include visual based (e.g., text and graphical) renderings, speech based renderings, and combinations thereof.

Thus, as further explained in the present specification, at pages 7 and 8, in accordance with the invention, a device operating with downloaded CML code can transcode to, for example, HTML and VoiceXML, substantially simultaneously so as to synchronize the multiple browsers providing the user with access to information. Such advantageous synchronization according to the invention is possible because the transcoding is done gesture by gesture with gesture identification. Thus, when an input/output event occurs in one modality, the browser knows what event occurred for what gesture and can immediately update all the supported modalities. This results in a very tight synchronization across modalities. Such synchronization is also achieved due to the fact that the various modality-specific user interface dialogues, e.g., associated with a graphical user interface (GUI) browser or a speech browser, are generated from a single CML representation, on a gesture by gesture basis. Thus, the multiple user interfaces, e.g., GUI, speech, etc., are synchronized and continuously updated as a user interactively proceeds with one or the other modality.

Ladd is significantly different than the claimed invention. Ladd merely discloses a voice browser that may operate with speech applications authored using a voice-based markup language such as VoxML™, see column 5, lines 8-11 of Ladd. Such voice-based markup language is no different than the programming paradigm employed by existing applications, as mentioned above, where only the content based aspects of an application are separated from the presentation based aspects. However, in accordance with the claimed invention, application programming is advantageously separated into content aspects, presentation aspects and interaction aspects. Thus, as independent claims 1, 44, 90 and 91 recite, the invention provides for representing interactions that the user is permitted to have with the one or more computer-based devices used to access the application by interaction-based programming components, wherein the interaction-based programming components are independent of content/application logic and presentation requirements associated with the application and the interaction-based programming components may be transcoded on a component by component basis to generate one or more modality-specific renderings of the application.

Columns 12 through 43 of Ladd evidence the fact that the voice-based markup language and browser of Ladd are clearly not independent of content/application logic and presentation requirements associated with the application, as in the claimed invention.
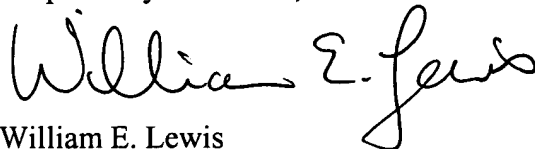
For at least the above reasons, Applicants assert that independent claims 1, 44, 90 and 91 are patentable over Ladd. Further, Applicants assert that dependent claims 2-29, 34, 36-43, 45-73, 78 and 80-87 are patentable over Ladd not only because they respectively depend from independent claims 1 and 44, but also because said claims recite patentable subject matter in their own right. Accordingly, withdrawal of the §102(e) rejections is respectfully requested.

Regarding the §103(a) rejections of claims 5, 30-33, 35, 49, 74-77, 79, 88 and 89 under 35 U.S.C. §103(a) based on various combinations of the W3C XSL specification, McLain and Baker, Applicants assert that said claims are patentable over the various combinations not only because they respectively depend from independent claims 1 and 44, but also because said claims recite patentable subject matter in their own right. The W3C XSL specification, McLain and Baker fail to remedy the deficiencies of Ladd presented above. Also, Applicants traverse the taking of Official Notice on various of the dependent claims and request a showing of actual prior art references that disclose the claimed features and provide appropriate motivation to combine. Accordingly, withdrawal of the §103(a) rejections is respectfully requested.

Attached hereto is a marked-up version of the changes made to the claims by the present Amendment.

In view of the above, Applicants believe that claims 1-91 are in condition for allowance, and respectfully request favorable reconsideration.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Claims 1, 3, 29, 35, 36, 47, 73, 79, 80 and 91 have been amended as follows:

1. (Amended) A method of [programming] generating an application accessible by a user through one or more computer-based devices, the method comprising the steps of:

representing interactions that the user is permitted to have with the one or more computer-based devices used to access the application by interaction-based programming components[;], wherein the interaction-based programming components are independent of content/application logic and presentation requirements associated with the application, and further wherein the interaction-based programming components [are] may be transcoded on a component by component basis to generate one or more modality-specific renderings of the application on the one or more computer-based devices; and

authoring the application using at least a portion of the interaction-based programming components.

3. (Amended) The method of claim 2, wherein the [content/application logic connection code] code in the application operative to provide a connection to the content/application logic expresses at least one of one or more data models, [atrribute] attribute constraints and validation rules associated with the application.

29. (Amended) The method of claim 1, further comprising the step of [providing a mechanism for] defining logical input events and [the] an association between the logical input events and physical input events that trigger the defined logical input events, such that the application may be authored using at least a portion of the definitions.

35. (Amended) The method of claim 1, further comprising the step of including code in the authored application for permitting cosmetic altering of a presentational feature associated with the one or more modality-specific renderings of the application on the one or more computer-based devices.

36. (Amended) The method of claim 1, further comprising the step of including code <u>in the</u> <u>authored application</u> for permitting changes to rules for transcoding on a component by component basis to generate the one or more modality-specific renderings of the application on the one or more computer-based devices.

47. (Amended) The apparatus of claim 46, wherein the [content/application logic connection code] <u>code in the application operative to provide a connection to the content/application logic</u> expresses at least one of one or more data models, [atrribute] <u>attribute</u> constraints and validation rules associated with the application.

73. (Amended) The apparatus of claim 44, further comprising the step of [providing a mechanism for] defining logical input events and [the] <u>an</u> association between the logical input events and physical input events that trigger the defined logical input events<u>, such that the</u> <u>application may be authored using at least a portion of the definitions</u>.

79. (Amended) The apparatus of claim 44, further comprising the step of including code <u>in</u> <u>the authored application</u> for permitting cosmetic altering of a presentational feature associated with the one or more modality-specific renderings of the application on the one or more computer-based devices.

80. (Amended) The apparatus of claim 44, further comprising the step of including code <u>in</u> <u>the authored application</u> for permitting changes to rules for transcoding on a component by component basis to generate the one or more modality-specific renderings of the application on the one or more computer-based devices.

91. (Amended) An article of manufacture for use in [programming] <u>generating</u> an application accessible by a user through one or more computer-based devices, comprising a machine readable medium containing computer executable code which when executed permits the implementation of

the steps of:

representing interactions that the user is permitted to have with the one or more computer-based devices used to access the application by interaction-based programming components[;], wherein the interaction-based programming components are independent of content/application logic and presentation requirements associated with the application, and further wherein the interaction-based programming components [are] may be transcoded on a component by component basis to generate one or more modality-specific renderings of the application on the one or more computer-based devices; and

authoring the application using at least a portion of the interaction-based programming components.